

customer number 26645

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF

DOCKET No.: 3166R-01

LAIMUTE R. SVARCAS, WILLIAM K.S. CLEVELAND, AND JOHN L. PETRIC

SERIAL No.: 1-/511,247

EXAMINER: V. VASISTH

FILED: OCTOBER 13, 2004

GROUP ART UNIT: 4151

TITLE: LUBRICANT COMPOSITION SUITABLE FOR DIRECT FUEL INJECTED,
CRANKCASE-SCAVENGED TWO-STROKE ENGINES

Wickliffe, Ohio

Hon. Commissioner for Patents

P. O. Box 1450

Alexandria, VA 22313-1450

Sir:

DECLARATION UNDER 37 C.F.R. §1.132

I, Brent R. Dohner, declare as follows:

I received a PhD in organic chemistry in 1985 from the University of Rochester.

I have been employed by The Lubrizol Corporation since 1990. Since that time I have been responsible for many aspects of technical development of engine oil lubricants. These include formulating passenger car motor oils, heavy duty diesel lubricants, as well as 2-Stroke products. I currently serve as the technical lead and primary platform developer for all 2-Stroke engine lubricants.

I am familiar with the invention claimed in the above-mentioned case.

In order to illustrate the improvement in performance of the compositions of the above invention, the following experiments were performed under my direction:

Lubricant formulations were prepared with the compositions as shown in the table below:

I certify that this correspondence is being deposited with the United States Postal Service as <u>first class</u> <u>express-mail-in-an-</u> envelope addressed to Commissioner for Patents, POBox 1450, Alexandria, VA 22313-1450 [Exp Mail]	
on <u>7/22/08</u> <u>via USPTO EFS</u>	By: <u>Mary S. Dedele</u>

Component, %	Ex A (comp)	Ex B (comp)	Ex C (comp)	Ex D (comp)	Ex E
(a) Oil	100	93	89	92	87
(b-1) Condensate: isostearic acid + amine (including 12% diluent oil)	0	5	5	0	5
(b-2) Mannich base (disp) (including. 34% diluent oil)	0	0	6	6	6
(d) Aromatic amine antioxidant	0	2	0	2	2

Each of the lubricant samples was subjected to the MHT TEOST (Moderately High Temperature-Thermo-Oxidation Engine Oil Simulation Test) test according to ASTM D7097. This test method covers the procedure to determine the mass of deposit formed on a specially constructed test rod exposed to repetitive passage of engine oil over the rod in a thin film under oxidative and catalytic conditions at 285°C. This test is a reasonable simulation of deposit formation of the type that typically occurs in engines and is often used as a screen test for deposits resulting from engine oils. The results of the test are reported as mg deposit and are presented in the table, below:.

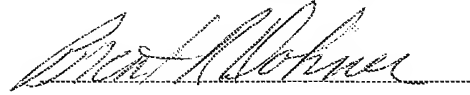
Test results	Ex A (comp)	Ex B (comp)	Ex C (comp)	Ex D (comp)	Ex E
MHT TEOST test results (mg deposit)	121	69.6	57.2	40.6	18.1

The test results show that all three required components of the present invention must be present in order to provide the present good results in terms of low deposits. While any two of the three required components do provide some improvement in deposit formation compared to no additives at all, all three are required for good results. In particular, Ex C is representative of a formulation that contains both components (b-1) and (b-2) but without the antioxidant. The deposit formation is nearly 4 times as severe as in Example E, which contains all three components of the present invention. It should be noted that the good performance of Example E is not simply the result of the presence of antioxidant. Comparative Examples B and D contain the same amount of the same antioxidant but show much worse deposits. It appears that the combination of components (b-1), (b-2), and (d) together provide the unexpectedly good results.

I further declare that all statements herein made of my own knowledge are true and all statements herein made on information and belief are believed to be true. I understand that willful false statements and the like are punishable by fine or imprison-

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ment or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon.

A handwritten signature in cursive script, appearing to read "Brent R. Dohner", written over a horizontal dotted line.

Brent R. Dohner

July 21, 2008 (date)